MOSQUITOFISH

Mosquitofish (Gambusia affinis) were first introduced to California in 1922 for mosquito control. Instead of using insecticides to control mosqitoes, fish are an attractive alternative referred to as *biological control*. Mosquitofish are of economic importance because they feed on mosquito larvae and pupae. Gambusia are part of the integrated vector management strategies employed by San Bernardino County Vector Control Program.

Sources Where Mosquitofish Are Placed

Some common places where fish are stocked by San Bernardino County Vector Control Technicians are artificial lakes, irrigation ditches, marshes, storm channels, creeks, natural and industrial ponds. Mosquitofish given by San Bernardino County Vector Control Program to homeowners are to be seeded/deposited into ponds, pools, troughs and other water holding containers on private property ONLY. They are not to be seeded/deposited in any public waters in San Bernardino County. Such activity will be illegal under the State Fish and Game Code of Regulation §238.5.

Residents are encouraged to stock Gambusia in the following sources:

- Ornamental ponds: 6-10 fish per pond (depending on size)
- Animal watering troughs

Life Span

The life span for mosquitofish is 2-3 years, females outliving males. Most females die after producing three or four broods.

Feeding Behavior

Gambusia are omnivorous and have a voracious appetite for mosquitoes. A large female can consume hundreds of larvae per day. All sizes and ages of Gambusia readily feed on mosquito larvae. They also eat algae and small invertebrates.

Color

- Both sexes have a pale grey body, fading to muddy white on the belly.
- The dorsal and rounded caudal fin may exhibit dotted banding.

Habitat

During the winter, the fish hibernate in the lower water depths, and reappear late spring when water temperature becomes warmer. The fish prefer sunlit areas of the pond and do not thrive in a heavily shaded pond.

Mosquitofish Description

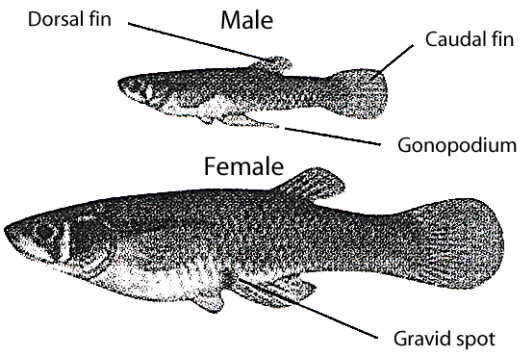
Male

- Slimmer than female
- Characteristic gonopodium
- Length: 1.5 inches

Female

- Larger body than male
- Distinct gravid spot on the abdomen above the rear of the anal fin
- Length: 2.5 inches
- Give birth to live young in broods of 40 to 100 or more

Mosquitofish
(Gambusia affinis)



Advantages of Using Mosquitofish Over Other Fish in Water Sources

- Gambusia are specific to consuming mosquito larvae. This is due to their upturned mouths naturally adapted for this purpose.
- Small, which enables them to inhabit shallow waters and penetrable dense vegetation growth where larvae and pupae hide.
- Broad tolerance to a wide range of environmental conditions such as temperature chantes, salinity, organic pollution, and poor food supply.
- Relative lack of disease.
- Easily maintained.

Compatible Species

Gold Fish, Koi, Carp

Noncompatible Species

Bass, Perch, Bluegill, Catfish, Frogs, Turtles, and Crayfish

Acclimation

When you get the fish home, acclimate them to their new site. Place the container with the fish directly into the water for 20-60 minutes or until the pond's water and the container's water are nearly the same temperature. Then release the fish. Gambusia can tolerate 33-104°F water temperatures, but prefer 77-86°F.

Food

Mosquitofish seldom need supplementary food, but during the winter larvae may be scarce. In this case, tropical fish flakes are suitable, as well as dry dog or at food. Also remember, overfed fish may not eat mosquito larvae and excess food may cause bacterial bloom toxic to the fish.

Protection From Predators

Provide large rocks and vegetation for shelter from predators such as raccoons, opossums, and egrets.

Algae

Small amounts are a good food source for the fish and shelter for fry (young fish), but if it gets too thick the fish might be unable to get to the mosquito larvae. Some algaecides are toxic to fish, so they should be used only if recommended by a knowledgeable person. Materials and instructions may be obtained from local tropical fish shops and garden supply centers.

Leaves

Certain leaves, like pine, oak, and eucalyptus contain chemicals that are harmful to fish. Accumulation of these leaves makes the fish too sick to eat mosquito larvae. Make sure to remove these leaves from your water source.

Information adapted from Greater Los Angeles County Vector Control District

County of San Bernardino • Human Services System
Department of Public Health
DIVISION OF ENVIRONMENTAL HEALTH SERVICES
VECTOR CONTROL PROGRAM
2355 East Fifth Street
San Bernardino, CA 92410
(909) 388-4600 • (800) 442-2283
www.sbcounty.gov/dehs

540037 Mosqifish Flyer C.INDD
November 2003